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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/738,383

12/16/2003

Chickayya Naik

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Cindy S. Kaplan

P.O. BOX 2448

SARATOGA, CA 95070

EXAMINER

NOORISTANY, SULAIMAN

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/738,383	Applicant(s) NAIK ET AL.	
	Examiner SULAIMAN NOORISTANY	Art Unit 2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-6,8,12-14,16,18-20,22,26-28 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4-6,8,12-14,16,18-20,22,26-28 and 30-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/16/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/29/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

This Office Action is response to the application (10/738383) filed on 03/23/2009

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/18/08 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4-6, 8, 12-14, 16, 18-20, 22, 26-28, 30-36 are rejected under 35 U.S.C.

103(a) as being unpatentable over **Lee** U.S Patent No **US 6879594** in view of **Haggerty** U.S Patent No **US 6331983**.

Regarding claim 2, Lee teaches wherein a method for operating a node in a layer 2 network to handle multicast traffic, said method comprising:

receiving at a switch within said layer 2 network, via a first port, a join message for a multicast distribution group (**JOIN request “here same as join message” – col. 1, lines 64 – col. 2, lines 14**);

establishing state information for said multicast distribution group based on said join message, if such state information has not already been established (**accepting the mapping for said single node if no previous bindings exist; and if said previous bindings exist when said subtree is attached to said Multi-Protocol Label Switching tree – col. 11, lines 38-44**); and

adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group (**Fig. 3 -- label mapping – col. 5, lines 27-28**) and;

forwarding said join message an attraction point of said layer 2 network via a spanning tree defined within of said layer 2 network (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65**).

However, Lee is silent in terms of “*receiving multicast traffic addressed to said multicast distribution group*”

Haggerty teaches that it is well known to have system wherein receiving at a switch within said layer 2 network, via a first port, a join message for a multicast distribution group (**receive sender present message to join a multicast group and receive multicast traffic wherein network interface cards which efficiently filter for LAN data link layer (layer 2) addresses (e.g., MAC addresses) mapped from**

network layer addresses – Fig. 8-20);

establishing state information for said multicast distribution group based on said join message, if such state information has not already been established **(connection for group exist – Fig. 8-20);**

adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group **(add receive port to connections – Fig. 8-20);**

forwarding said join message an attraction point of said layer 2 network via a spanning tree defined within of said layer 2 network **(deliver Map message towards sending switch – Fig. 8-20);**

receiving multicast traffic addressed to said multicast distribution group **(Fig. 3 – Mutlicast switch);** and

forwarding said multicast traffic via a multicast distribution tree formed based on said spanning tree **(Fig. 4 – showing a spanning tree distribution of multicast packets within the network)** in order to make the system more efficient controlling the flow of multicast traffic on a communications network.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee's invention by utilizing a Method and apparatus for establishing connections in a switch-based communications network for multicast traffic. A source receives a multicast packet on an access port from a source host, determines a group address in the multicast packet, and composes and sends a "sender present" message to other switches on its network ports. The receiving switches determine

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whether a local host wishes to join the group and if so, send a map message back toward the source switch on a predetermined path between the receiving switch and the source switch. A map message may terminate at a switch on the path that already has a connection for this group/source pair, and join into this connection as an additional output port. In this manner, a "signal out, connect back" method is provided for establishing a connection path from the sender to multiple receivers. In addition, multicast traffic can be sent across a switch interface in either direction, providing for controlled multicast traffic between switch-based networks. As another consequence of its group membership request, the receiving host network interface card starts filtering for the LAN-specific hardware (data-link or MAC layer) addresses associated with the new multicast group address. WAN routers deliver the requested incoming multicast packets to the LAN router, which maps the host group address to its associated hardware address and builds the message (for example, an Ethernet frame) using this address. The receiving host network interface card and network driver, listening for these addresses, pass the multicast messages to the TCP/IP protocol stack, which makes them available as input to the user's application, such as a video viewer, as taught by Haggerty

Regarding claims 4, Lee and Haggerty together taught the method as in claim 2 above. Haggerty teaches wherein "wherein said join message comprises an IGMP Join message." (**IGMP – Fig. 8-20**)

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Regarding claim 5, Lee and Haggerty together taught the method as in claim 2 above.

Haggerty further teaches wherein flooding said join message via a spanning tree of said layer 2 network ("**flooded**"— **col. 15, lines 20-22**).

Regarding claim 6, Lee and Haggerty together taught the method as in claim 2 above.

Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65**).

Regarding claim 8, Lee and Haggerty together taught the method as in claim 2 above.

Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65**).

Claim 12 list all the same elements of **claim 2**, but in method rather than method form.

Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 12**.

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Claim 13 list all the same elements of **claim 2**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 13**.

Regarding claim 14, Lee and Haggerty together taught the method as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65**).

Claim 16 list all the same elements of **claim 2**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 16**.

Regarding claim 18, Lee and Haggerty together taught the method as in claim 2 above. Haggerty further teaches wherein “wherein said join message comprises an IGMP Join message.” (**IGMP – Fig. 8-20**)

Regarding claim 19, Lee and Haggerty together taught the method as in claim 2 above. Wang further teaches wherein flooding said join message via a spanning tree of said layer 2 network (**"flooded"– col. 15, lines 20-22**).

Regarding claim 20, Lee and Haggerty together taught the method as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

Regarding claim 22, Lee and Haggerty together taught the method as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

Claim 26 list all the same elements of **claim 2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 26**.

Claim 27 list all the same elements of **claim 2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 27**.

Claim 28 list all the same elements of **claim 2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 28**.

Claim 30 list all the same elements of **claim 2**, but in apparatus rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 30**.

Claim 31-36 list all the same elements of **claim 2, 4-6, 8**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2, 4-6, 8** applies equally as well to **claim 31-36**.

Response to Amendment

Applicant's arguments with respect to claim(s) **2, 4-6, 8, 12-14, 16, 18-20, 22, 26-28, 30-36** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is 571-270-1929. The examiner can normally be reached on Monday Through Friday 7:30 am to 5:00 pm EST. If attempts to reach the examiner by telephone are unsuccessful, the

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examiner's supervisor, Jeffery Pwu can be reached on 571-272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sulaiman Nooristany 04/08/2009

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446